

## **LOW-K GATE SPACERS BY FLUORINE IMPLANTATION**

### **ABSTRACT OF THE DISCLOSURE**

[0046] A MOSFET device and a method of fabricating a MOSFET device having low-K dielectric oxide gate sidewall spacers produced by fluorine implantation. The present invention implants fluorine into the gate oxide sidewall spacers which is used to alter the properties of advanced composite gate dielectrics e.g. nitridized oxides, NO, and gate sidewall dielectrics, such that the low-K properties of fluorine are used to develop low parasitic capacitance MOSFETs.